

Quest for pedagogical technology and its use in education systems

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ABSTRACT

In connection with the modernization of the education system, the role of using information technologies and filling the educational information environment (EIE) with them has greatly increased. One of the meta-disciplinary results of the main educational programm of basic general education is “formation and development of competence in the use of information and communication technologies”. Since this requirement is meta-subject, that is, according to inter-subject concepts and universal educational actions, it means that this requirement applies to all subjects.

Keywords: education system, “technology quest”, competence, educational quest, interactive lesson, pedagogical technology.

1. INTRODUCTION

One of the main tasks of a modern teacher is to provide an opportunity for creative rethinking and systematization of acquired knowledge and skills, as well as their practical application, the ability to implement the abilities of students. The teacher's inventory includes a lot of technologies that help to realize this task. One of them is the technology of educational quests.

A modern school requires a teacher who is able to successfully implement the state educational policy set out in the new educational standards, promote personal development and successful socialization of schoolchildren, preserve and strengthen their physical, psychological, social and spiritual and moral health. To fulfill the social order, a modern teacher must be familiar with domestic and foreign teaching experience, possess innovative technologies.

In the process of organizing lesson and extracurricular activities in any school subject in the context of the implementation of new educational standards is relevant application of educational technologies that help students develop independence and critical thinking. In addition, the ability to solve problems and constructively interact in society. Modern technologies contributing to the development of the student as an active subject of teaching are quite extensive. Among them are: educational research and project activities, development of critical thinking, problem learning, and learning issues.

Educational Quest – pedagogical technology, which includes a set of problem tasks with elements of a role-playing game, which require any resources, and primarily the resources of the Internet. Quests are developed to maximize the integration of the Internet in various academic subjects at different levels of study in the learning process. They may cover a particular problem, subject, or theme, and may also be cross-disciplinary. Quests can be used to work with students, parents, colleagues.

2. MAIN PART

Modern education faces the task of finding new types and forms of organization of educational activities. Teaching should be developing in terms of developing independent critical and creative

thinking. This requires a wide information field of activity, different sources of information, different views, views on the same problem, encouraging students to think independently, to find their own reasoned position.

Due to such a wide use of information technologies, such a concept as the Educational Information Environment (EIE) has appeared. The Educational Information Environment (EIE) is a software and telecommunication environment based on the use of computer technology, which implements with single technological means and interconnected content qualitative information support for schoolchildren, teachers, parents, administration of the educational institution and the public [4].

It is possible to consider that the first quests have appeared in an epoch of ancient civilization and accompany mankind all its history. After all, the quest is a puzzle, and people had to solve puzzles at all times. At different times people tried to find a treasure buried by pirates and left an encrypted map, or believed that you can find a fairytale tree or some object that can bring happiness, etc [2].

The term “quest” as an educational technology was first proposed in summer 1995 by Bernie Dodge, Professor of Educational Technology at the University of San Diego (USA).

The scientist developed innovative Internet applications for integration into the learning process when teaching different subjects at different levels of education. He named a website with a problem task and a search for information on the Internet as a quest. He has defined the following types of tasks for web quests:

- ⊕ paraphrase – demonstration of understanding of the topic based on presentation of materials from different sources in a new format: creation of a presentation, poster, story;
- ⊕ planning and design – the development of a plan or project based on specified conditions;
- ⊕ self-knowledge – any aspect of personality research;
- ⊕ compilation – transformation of format of information received from different sources: creation of cookery recipe book, virtual exhibition, time capsule, culture capsule;
- ⊕ creative task – creative work in a certain genre - creating a play, poem, song, video;
- ⊕ analytical task – search and systematization of information;
- ⊕ detective, puzzle, mystery story – conclusions based on conflicting facts;
- ⊕ consensus – building - working out a solution to an acute problem;
- ⊕ evaluation is the justification for a point of view;
- ⊕ journalistic investigation – objective presentation of information (separation of opinions and facts);
- ⊕ persuasion is the inclination of opponents or neutrals to take sides;
- ⊕ scientific research – study of various phenomena, discoveries, facts based on unique online sources.

Quest – a game in which it is necessary to solve problems to advance in the story. There is a goal, to reach which you can consistently solve puzzles. Each puzzle - is the key to the next point and the next task. And the tasks can be very different: active, creative, intellectual.

Quests can be held both in the classroom and in the city, in nature, that is, the territory of the event is limited only by the imagination of the organizer and the purpose of the event. According to this feature, all quests can be divided into 2 types: “live” quests and “virtual” quests. “Live” quests are usually held on a specific, specially prepared territory. And virtual can be held even in the classroom or at home, for their passage the presence of the Internet connection is enough [12].

In foreign studies, in particular T. Kailova, T. Salomaki, J. Taina [1: 8–12] analyzes the application of quests and their possibilities for students. T.A. Naumova, A.A. Baranov, and Ya.L. Tarakanov believe that the use of web quests in the learning process develops the leadership qualities of students [8: 8–12]. For comprehension of game essence of quests it is possible to rely on works of J.Heising, E.Fink, H-G. Gadamer [7].

Teachers have already accumulated some experience of using Internet resources in organizing students' independent work. First of all, it is the use of the Internet in individual or group research work. In this case, we mean the independent research work. The research methodology hardly “fits” into the time frame of an ordinary class. Most of the time spent searching for information, processing and analyzing it, and preparing the research results for presentation in class, is spent outside of class hours. This way of integrating the Internet into learning is called a web quest.

Webquest in pedagogy – a problem task with elements of a role-playing game, for which the Internet information resources are used. The webquest is aimed at developing the students' analytical and creative thinking skills; the teacher creating the project must have a high level of subject, methodical and info-communication competence.

A feature of web quests is that some or all of the information presented on the site for individual or group work by students is actually on different websites. However, thanks to existing hyperlinks, students do not sense this, but work in a single information space for which the exact location of a piece of learning information is not an important factor. Students are given the task of collecting online materials on a topic and solving a problem using those materials. Some of the sources are referenced by the teacher and some can be found by using conventional search engines. At the end of the quest, students either submit their own web pages on the topic or some other creative work in electronic, print, or oral form.

The webquests are based on modern information technologies and use the wealth and boundlessness of the information space of the global computer network for educational purposes. In order to increase motivation when studying a certain topic, students get acquainted with modern technologies, making maximum use of Internet opportunities in acquiring knowledge from authentic sources. As a matter of fact, the basis of webquests is a project methodology, which appeared in the beginning of the last century in the USA. It was also called the problem method, and it was linked to the ideas of humanistic direction in philosophy and education, developed by the American philosopher and professor J. Dewey [5].

The concept of the quest from a cognitive psychology perspective defines the quest as a learning structure that uses links to important Internet resources and an authentic task to motivate students to explore a problem with an ambiguous solution. The goal is to develop students' ability to work both individually and in groups during the search for information and its transformation. Consequently, this type of search activity needs the “support” that the teacher should provide. The support is to help students to work outside their real skills. Examples of supports are activities that help students to plan their research properly, involve them in problem solving, and focus on the most important aspects of learning [11].

In general theory, I. N. Sokol defines the quest as a technology with a clearly defined didactic task, game design, clearly formulated rules. The process of implementing the quest must be supervised by a leader (mentor); he is also the direct leader of the entire gameplay [10].

The main didactic principles underlying the organization of the Czech sightseeing quest are the principle of psychological comfort: dialogue communication is organized, a friendly atmosphere is created, oriented to the realization of the basic ideas of the pedagogy of cooperation; the principle of creativity is the orientation on the creative beginning of all participants [3]. It should be noted that the territory on which the quests take place can be any: from a room to a whole city and even a region or a region [3].

Principles for organizing quests

- ⊕ It is well known that interactive learning technologies are a process based on a system of rules for organizing interaction between students and a teacher, guaranteeing a pedagogically productive cognitive communication, which creates situations where students experience success in learning activities and develop professionally relevant competencies [9].
- ⊕ In order to effectively organize quests, certain principles and conditions should be followed:
 - ⊕ all games and tasks should be safe (children should not be asked to jump over a fire or climb a tree);
 - ⊕ tasks assigned to children should be appropriate to the age of the participants and their individual characteristics;
 - ⊕ under no circumstances should the dignity of the child be compromised in any way;
 - ⊕ different activities should be introduced into the content of the scenario, since children of the specified age cannot perform the same tasks according to their psychological and age characteristics;
 - ⊕ the tasks need to be designed in such a way that they are consistent and logically interrelated;
 - ⊕ the game should be emotionally colored with decorations, music, costumes, and equipment;

- preschoolers must be clear about the purpose of the game they are aiming for (e.g., to find a treasure or save a good character from evil);
- think about the time intervals during which children will be able to complete the task but will remain interested in it;
- The role of the teacher in the game is to guide children, “push” them to the right decision, but the final conclusions should be made by the children themselves [6]. The use of interactive learning technologies is designed to address a number of challenges, among which the following are highlighted:
 - introduction of quest technologies into the educational process at the present stage;
 - development of communicative competences, establishment of emotional contacts between students;
 - development of cognitive universal learning activities, general learning skills (analysis, synthesis, goal setting, information retrieval, knowledge structuring, etc.);
 - ensuring the development of skills to independently assess and make decisions that define a behaviour strategy;
 - to communicate and interact fruitfully with colleagues in joint activities, to take into account the positions of the other (joint goal setting and planning of common methods of work on the basis of forecasting, control and correction of the course and results of joint activities), to resolve conflicts efficiently; to ensure relaxation of participants of the educational process, elimination of nervous load, attention switching, change of forms of activity, etc.).

3. CONCLUSION

The role of quest technology in today's world simply cannot be underestimated. Of course, you can make a child engage in milling, but, you know, nothing good will come of it. Roughly speaking, he will remember some certain unreasonable set of knowledge, which in practice will be absolutely nothing. But when the understanding of this or that process comes, this is different. And, I must say, children are sometimes able to memorize material even on a subconscious level (same multiplication table). And if the process is presented also in the form of a game, no one will refuse to participate in it.

Quest technology is designed not only to improve the perception of, say, educational material or contribute to the moral development of the child as a person, but also can stimulate the mental and moral development of children. In addition, at the heart of such a technique has a dual meaning, strange as it may seem, of two mutually exclusive rules: the search for the right logical thinking and the use of non-standard methods to solve the problem.

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